

CLAIMS

I claim:

1. A seal installation tool for inserting an engine seal into a seal housing surrounding an engine shaft, said seal installation tool comprising:

a main screw having a distal end adapted for attachment to the engine shaft;

a pressure nut attached to said main screw and selectively movable along a length of said main screw between a head portion of the main screw and said distal end;

a seal guide assembly slidably inserted onto said main screw, said seal guide assembly having a seal mount portion, said seal mount portion being insertable through the engine seal such that the engine seal is mounted on said seal mount portion; and

said pressure nut being movable against said seal guide assembly to urge said seal guide assembly towards said distal end whereby the engine seal is delivered into the seal housing.

2. The seal installation tool of claim 1, further comprising:

a washer positioned between said pressure nut and said seal guide assembly.

3. The seal installation tool of claim 2, further comprising:

said washer being made of a material selected from the group of materials consisting of copper and bronze for facilitating smooth movement of said seal guide assembly when turning said pressure nut.

4. The seal installation tool of claim 1, further comprising:
said seal mount portion being tubular whereby said seal mount portion is positionable to receive an end of the engine shaft such that the engine seal is positioned in the seal housing.

5. The seal installation tool of claim 1, further comprising:
said seal guide assembly having a backing portion, said seal mount portion being a cylindrical tube extending from said backing portion; and

said backing portion including a groove extending around a base of said seal mount portion such that said groove is positioned to receive a protrusion extending from the engine seal.

6. A method of installing an engine seal, the steps of the method comprising:

providing an engine having an engine shaft and a seal housing surrounding an end of said engine shaft;

providing an engine seal;

providing a seal installing tool having a main screw, said main screw having a distal end attachable to said engine shaft, said seal installing tool having a pressure nut attached to said main screw and selectively movable along a length of said main screw between a head portion of said main screw and said distal end, said seal installing tool having a seal guide assembly slidably inserted onto said main screw, said seal guide assembly having a seal mount portion insertable through said engine seal such that said engine seal is mounted on said seal mount portion;

mounting said engine seal onto said seal mount portion;

attaching said main screw to said engine shaft;

moving said pressure nut towards said engine shaft whereby said seal guide assembly is urged towards said engine to insert said engine seal into said seal housing; and

retracting said seal guide assembly away from said engine whereby said engine seal is retained in said seal housing.

7. The method of claim 6, the steps of the method further comprising:

moving said pressure nut towards said head portion of said main screw to permit retraction of said seal guide assembly while said main screw remains attached to said engine shaft.

8. The method of claim 7, the steps of the method further comprising:

detaching said main screw from said engine shaft.

9. The method of claim 6 wherein said seal guide assembly includes a backing portion adjacent to said seal mount portion, the steps of the method further comprising:

moving said pressure nut towards said engine shaft until said backing portion abuts said engine to indicate said engine seal is fully inserted into said seal housing.

10. The seal installing tool of claim 1 wherein said main screw includes threading complimentary to interior threading of the engine shaft whereby said main screw is attachable to the engine shaft.

11. The seal installing tool of claim 1, further comprising:

said seal guide assembly having a backing portion, said seal mount portion being a cylindrical tube extending from said backing portion a length less than a depth of the engine seal whereby said

seal mount portion is inhibited from abutting a back wall of the seal housing while inserting the engine seal into the seal housing.

12. A seal installation system comprising:

an engine seal;

an engine having a seal housing surrounding an engine shaft;

a main screw having a distal end attachable to said engine shaft;

a pressure nut attached to said main screw and selectively movable along a length of said main screw between a head portion of the main screw and said distal end;

a seal guide assembly slidably mounted onto said main screw, said seal guide assembly having a seal mount portion, said seal mount portion being insertable through said engine seal such that said engine seal is mounted on said seal mount portion; and

said pressure nut being movable against said seal guide assembly to urge said seal guide assembly towards said distal end whereby said engine seal is delivered into said seal housing.

13. The seal installation system of claim 12, further comprising:

a washer positioned between said pressure nut and said seal guide assembly.

14. The seal installation system of claim 13, further comprising:

said washer being made of a material selected from a group of materials consisting of copper and bronze for facilitating smooth movement of said seal guide assembly when turning said pressure nut.

15. The seal installation system of claim 12, further comprising:

said seal mount portion being tubular whereby said seal mount portion is positionable to receive an end of said engine shaft such that said engine seal is positioned in said seal housing.

16. The seal installation system of claim 12, further comprising:

said seal guide assembly having a backing portion, said seal mount portion being a cylindrical tube extending from said backing portion; and

said backing portion including a groove extending around a base of said seal mount portion such that said groove is positioned to receive a circular protrusion extending from said engine seal.

17. The seal installing system of claim 12 wherein said main screw includes threading complimentary to interior threading of said engine shaft whereby said main screw is attachable to said engine shaft.

18. The seal installing system of claim 12, further comprising:

said seal guide assembly having a backing portion, said seal mount portion being a cylindrical tube extending from said backing portion a length less than a depth of said engine seal whereby said seal mount portion is inhibited from abutting a back wall of said seal housing while inserting said engine seal into said seal housing.